

Claims

1- An extruded polymeric article comprised of a  
polymeric matrix and polymeric particles which are  
substantially spherical, highly crosslinked, have a  
mean particle size of between 15 and 70 micrometers and  
have a particle size distribution between 10-110  
micrometers wherein the article has a frosted, a  
surface textured finish or a frosted and surface  
textured finish.

2. The article of Claim 1, wherein the beads have a  
mean particle size of 25-55 micrometers.

3. The article of Claim 1 wherein the polymeric matrix  
is an ABS terpolymer, ASA copolymer, polycarbonate,  
polyester, PETG, MBS copolymer, HIPS,  
acrylonitrile/acrylate copolymer, polystyrene, SAN,  
MMA/S, an acrylonitrile/methyl methacrylate copolymer,  
impact modified polyolefins, PVC, impact modified PVC,  
imidized acrylic polymer, acrylic polymer or impact  
modified acrylic polymer.

4. The article of Claim 3 wherein the polymeric matrix  
is polymethyl methacrylate based.

5. The article of Claim 1 wherein a frosted appearance  
is achieved through the mismatch of the refractive  
indices of the polymeric particles and polymeric matrix  
by greater than 0.02.

6. The article of Claim 1 comprised of  
a) 20 - 90% polymethyl methacrylate or alkyl  
methylacrylate/alkyl acrylate copolymer based matrix;  
b) 0 - 50% modifiers; and

c) 5 - 60% highly crosslinked spherical beads comprised of about 0-100 % styrene; 0-100% alkyl methacrylate, 0-100% alkyl acrylate and crosslinking agent.

5

7. The article of Claim 1 comprised of

a) 20 - 90% polymethyl methacrylate or alkyl methylacrylate/alkyl acrylate copolymer based matrix;

b) 0 - 50% modifiers; and

10

c) 5 - 30% highly crosslinked spherical beads comprised of about

0-100 % styrene,

0-100% alkyl methacrylate,

0-100% alkyl acrylate and crosslinking agent.

15

8. The article of Claim 1 comprised of

a) 20 - 90% polymethyl methacrylate based matrix;

b) 0 - 50% modifiers; and

c) 5 - 30% highly crosslinked spherical beads

20

comprised of

0 - 50 % styrene

100- 50 % alkyl alkylacrylate, alkyl acrylate or  
a combination thereof and

0.1-2.5% crosslinking agent.

25

9. The article of Claim 1, wherein the particles are comprised of

a) 0 - 50% styrene;

b) 45-100% alkyl methylacrylate or alkyl acrylate;

30

c) 0.01-5% crosslinking agent.

35

10. The article of Claim 9 wherein the crosslinking agent is ethylene glycol dimethacrylate, divinylbenzene or allyl methacrylate.

11. The article of Claim 10 wherein the crosslinking agent is divinylbenzene.

12. A resin comprised of

- 5      a) 20 - 90% polymethyl methacrylate based matrix;  
b) 5 - 50% modifiers; and  
c) 5 - 30% highly crosslinked spherical beads

comprised of

10      10 - 50 % styrene

90 - 50 % methyl methacrylate

0.1 - 2.5 % crosslinking agent,

wherein the beads have a mean particle size of 15-70 micrometers, and a particle size distribution of between 15-110 micrometers.

15      13. The resin of Claim 12 wherein the crosslinking agent is ethylene glycol dimethacrylate, divinylbenzene or allyl methacrylate.

20      14 The resin of Claim 12 wherein the crosslinking agent is allylmethacrylate.

25      15. The resin of claim 12 wherein the beads contain a colorant.

30      16. A resin comprised of

- a) 70 - 85% polymethyl methacrylate based matrix; and  
b) 15 - 30% highly crosslinked spherical beads  
comprised of

35      15 - 35 % styrene

65 - 85 % methyl methacrylate

0.5-1.5% allylmethacrylate;

wherein the beads have a mean particle size of 15-70 micrometers, and a particle size distribution of between 15-110 micrometers.

17. A resin comprised of

- a) 20 - 90% polymethyl methacrylate or alkyl methylacrylate/alkyl acrylate copolymer based matrix;
- b) 0 - 50% modifiers; and
- c) 5 - 30% highly crosslinked spherical beads comprised of about
  - 0-100 % styrene,
  - 0-100% alkyl methacrylate,
  - 0-100% alkyl acrylate and
  - crosslinking agent.

5

10